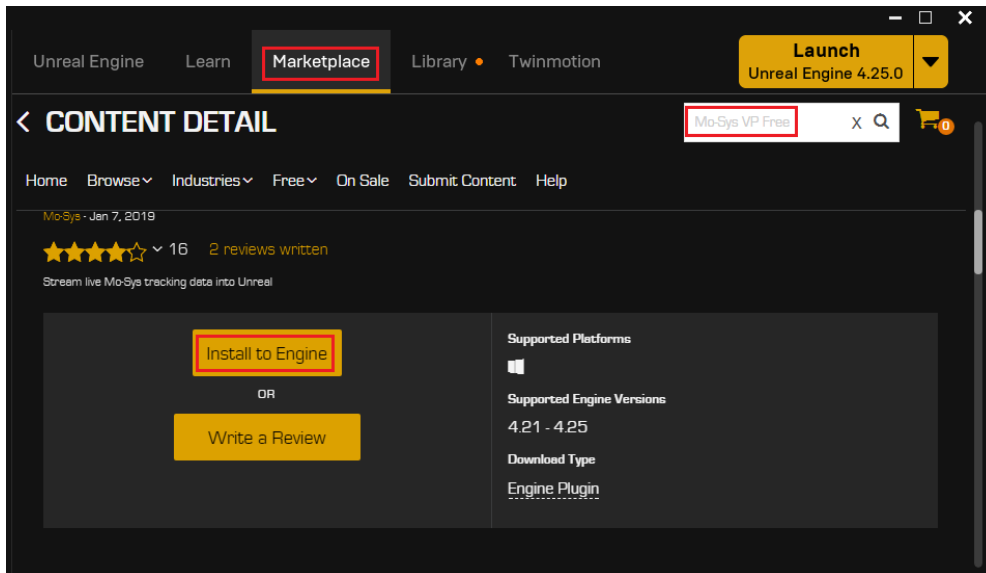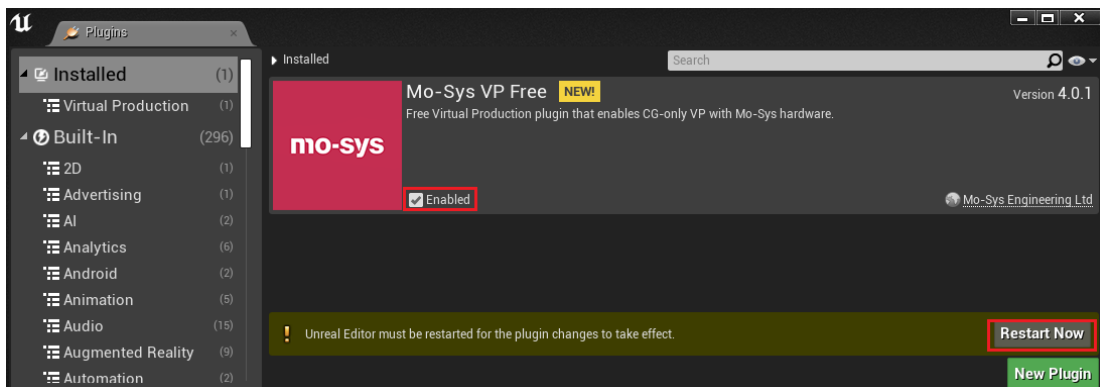# Getting Started

Download and enable the plugin

▪ Open the MarketPlace in the Epic Games Launcher, then search for "Mo-Sys VP Free" plugin. Once found, click Add to Cart then install.
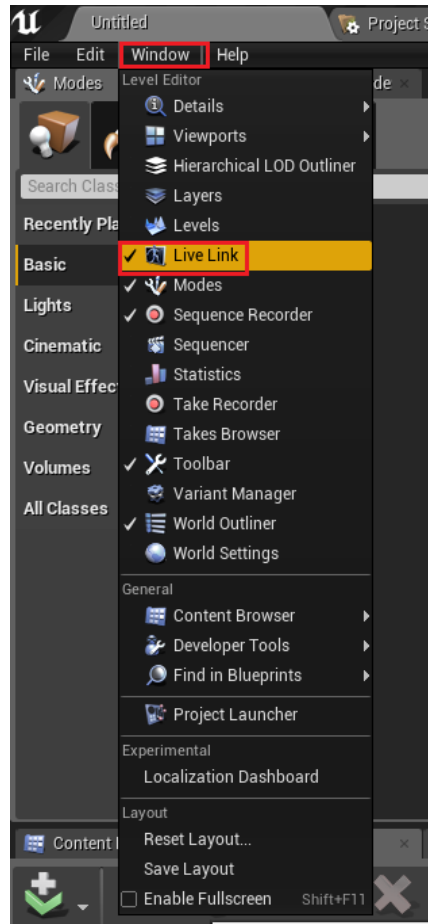

▪ In order to enable the plugin in your project, select Edit > Plugins. Tick "Enabled" of Mo-Sys VP Free plugin, and then click on Restart Now.
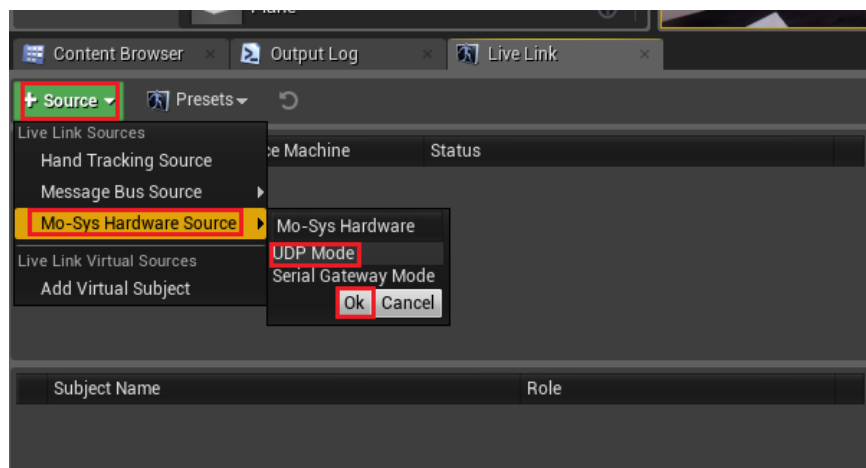
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CAMERA MOTION EXPERTS

Setting up Unreal project for Tracking

Add a source for your hardware

- In Unreal Engine, open the Live Link window.

- To add a source, for example "Mo-Sys UDP Source", click on + Source > Mo-Sys Hardware > Source > UDP Mode > Click Ok
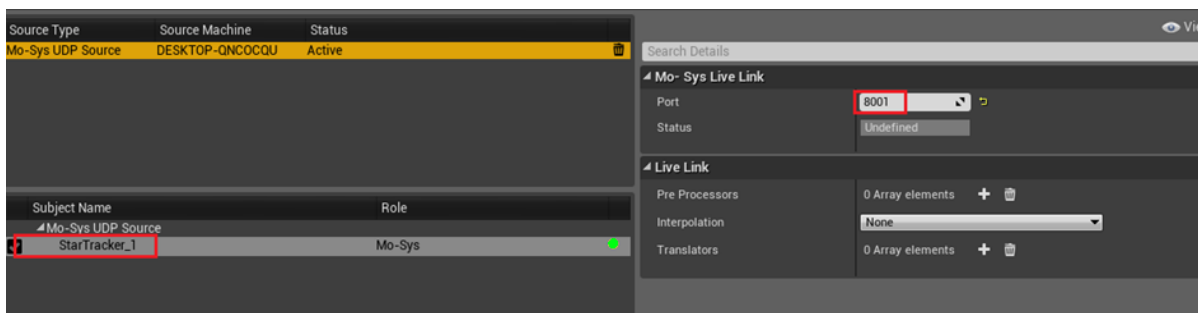

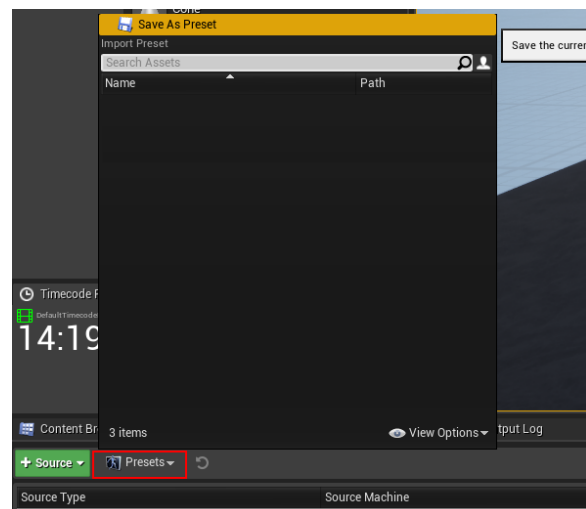# Setting up Unreal project for Tracking

Add Subject Name

- Click on added source e.g. "Mo-Sys UDP Source", edit the "Mo-sys Live Link settings", select StarTracker, edit the subject name e.g. "StarTracker_1", then click "Add New Subject".
- If all previous steps were followed, a new subject should appear (No need to change the default IP):
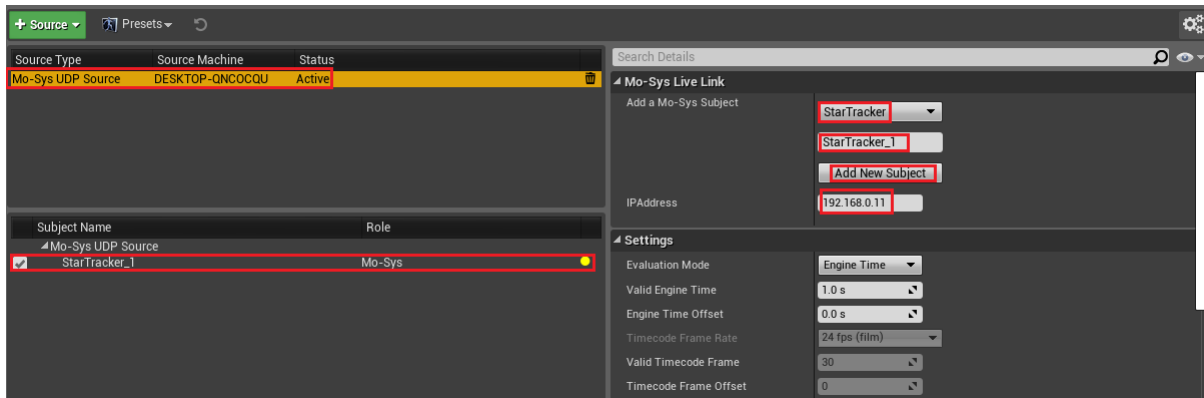
- Click on the new subject e.g "StarTracker_1", edit its port number, if you are receiving data, the colour of the subject status should turn green.

- Live Link subjects are not remembered after UE restart. To save the MoSys Live Link setup, select Presets dropdown and save it.

  The saved preset can be also loaded from here.

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Setting up Unreal project for Tracking

Delete Subject Name

- You can delete all the subject names, by clicking on the delete icon.
- You can also delete the subject names individually, by selecting the source e.g. "Mo-Sys UDP Source", entering the subject name e.g. "StarTracker", then clicking on the "Delete Subject" button.
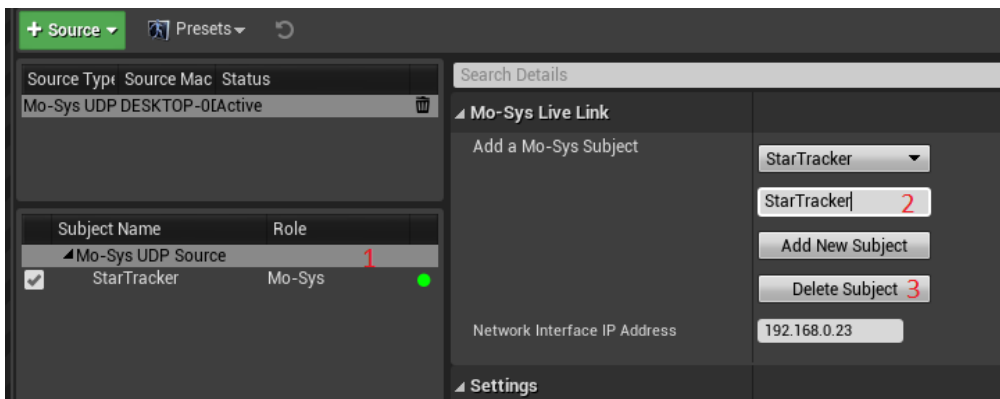
Setting up Unreal project for Tracking

Connect to an Actor in the Scene

- Drag and drop the actor, for example a Camera from the Modes panel.
- Select it in the scene or in the world outliner.
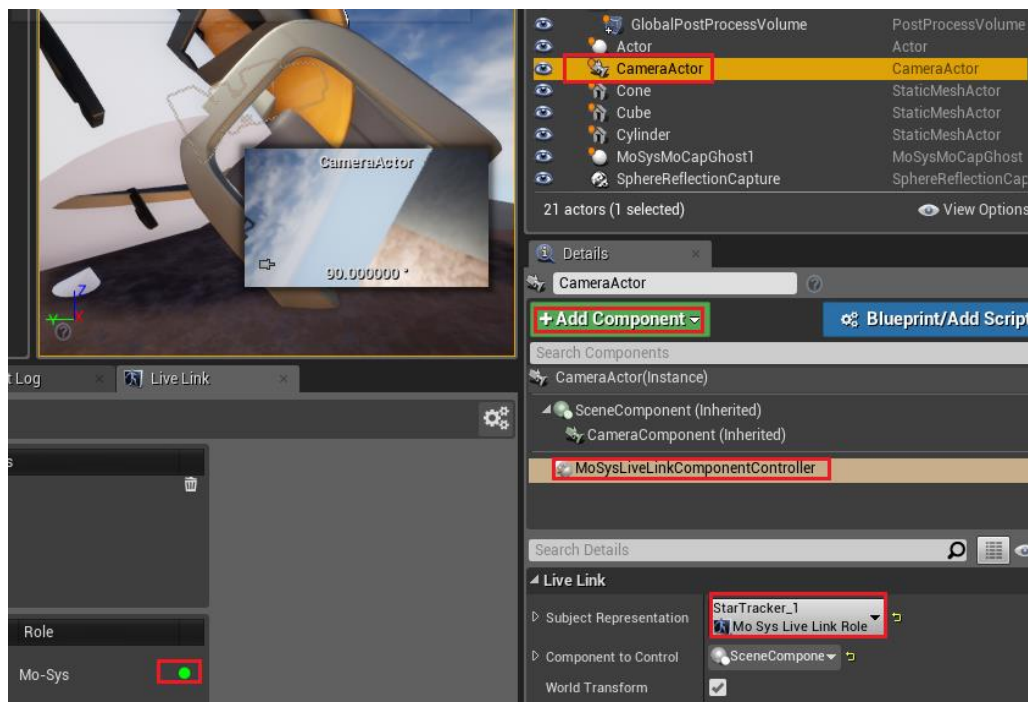
- Click Add Component
- Search for the MoSysLiveLink controller component and click on it.
- It will appear below the CameraActor instance.
- Click on the "MoSysLiveLinkComponentController", select the subject representation as the newly added subject. E.g "StarTracker_1"
- Once the previous steps are completed, you should see the actor moving **(If you are receiving UDP data)**.

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Setting up Unreal project for Tracking

Changing the origin of a tracked actor

- This will enable the user to change the position of an actor in the scene while the actor is receiving tracking data.
- Click on the actor's "Mo-Sys Live link" component, change the component to control the component of the actor (e.g CameraComponent). For *nDisplay* use leave "SceneComponent".
- Now you can change the actor's position in the scene.
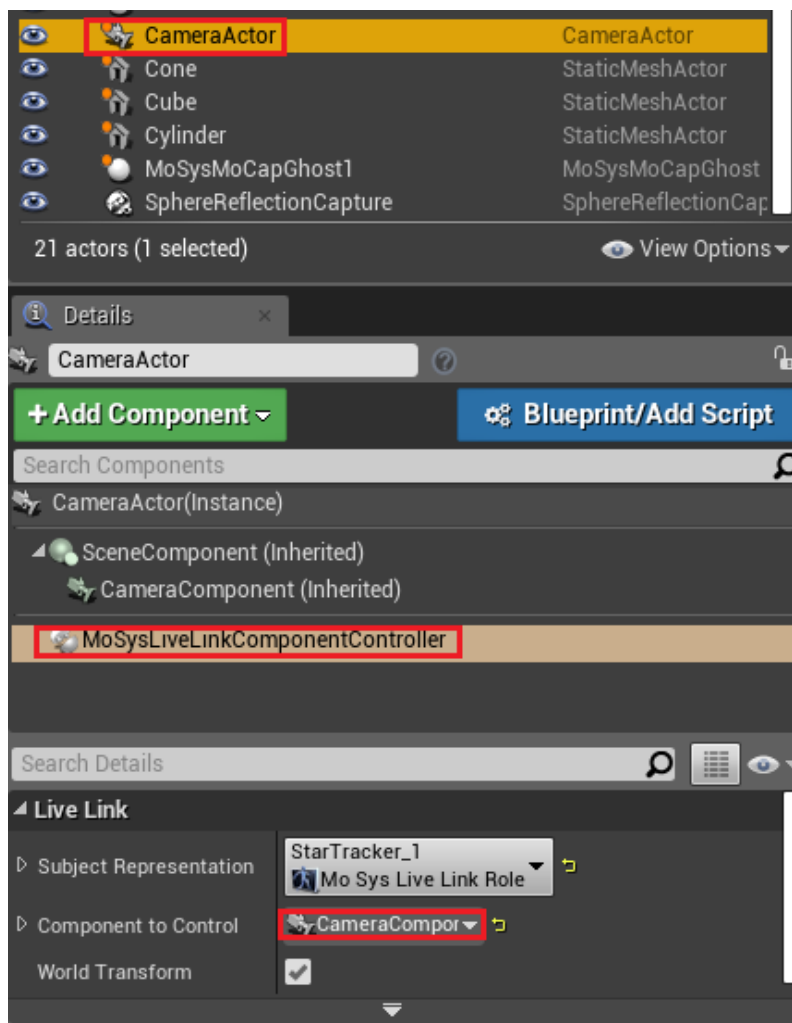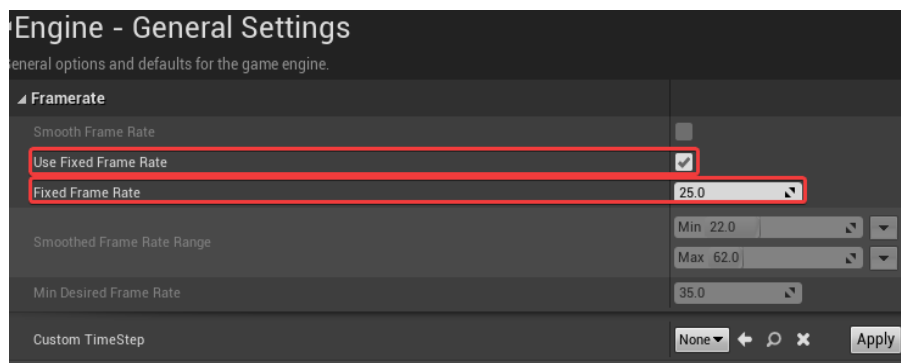
Usage

Tracking interpolation

- The tracking interpolation will enhance the tracking smoothness, especially for the serial sources.
- It can be enabled by selecting "Mo Sys Interpolation" in the LiveLink menu of a subject name.
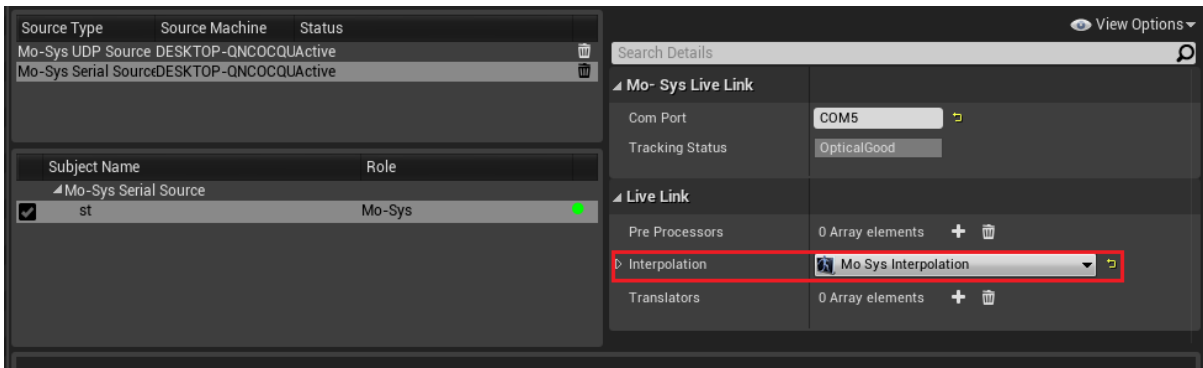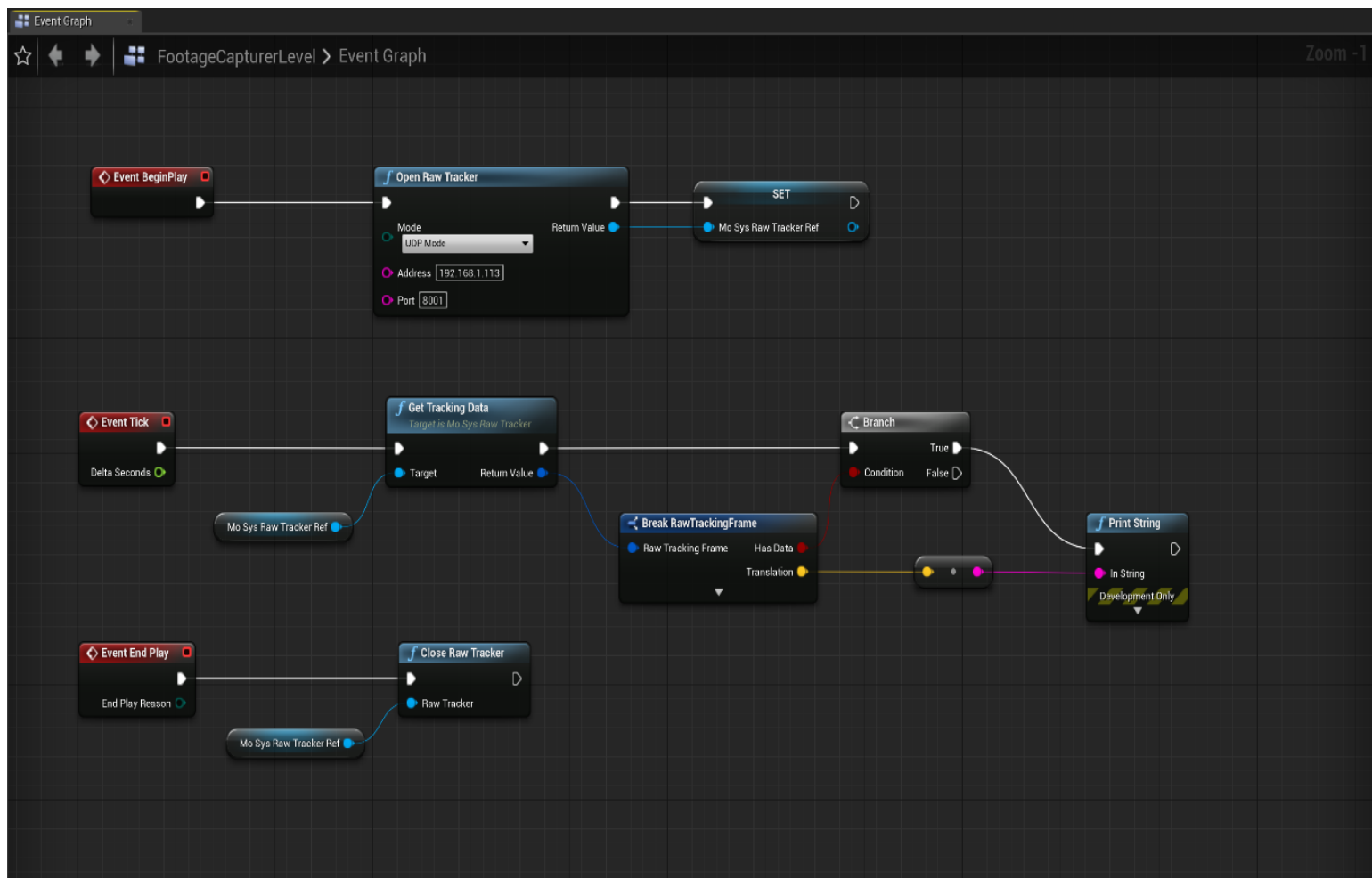

Raw Tracking Data

Raw Tracking enables accessing tracking data using BluePrints. Our latest update will enable you to track multiple sources. This can be achieved by the following steps below.

- First ensure that the frame rate in the project settings is set to fixed and matches the tracking data frame rate of the StarTracker.

Usage

- Create the 3 notes 'Open Raw Tracker'; 'Get Tracking Data'; and 'Close Raw Tracker'. **These are accessible anywhere**.
- Create a new variable **'Mo Sys Raw Tracker ref'** of type Mo Sys Raw Tracker.
- **'Open Raw Tracker'** allows you to set your mode (UDP or serial), your PC's IP address, and Port (e.g 8001 for UDP or COM1 for Serial).
- **'Get Tracking Data'** will return a list of raw data and can be accessed by breaking the return value.
    - You can view the rest of the data by expanding the break node and using the down arrow at the bottom of the node.
- The node **'Close Raw Tracker'** must be called at the end of the game's runtime.
- Below is an example of the three nodes in the level blueprint.
    - Multiple Raw Trackers can be added, by adding multiple Mo Sys Raw Tracker Ref's.
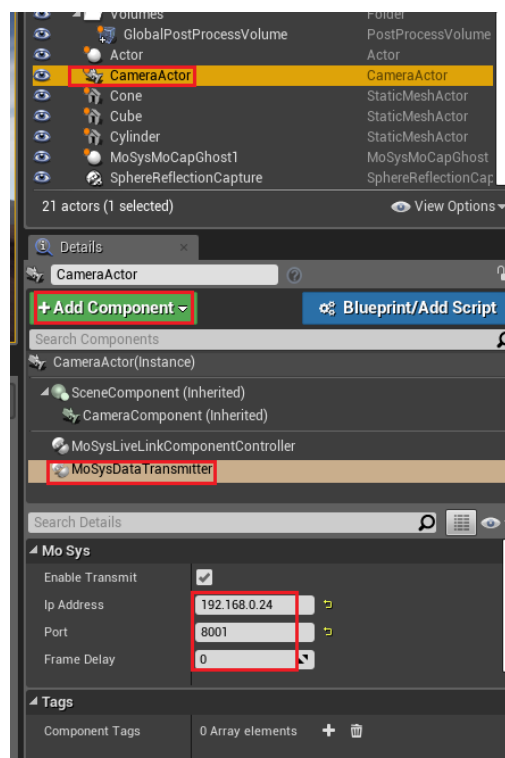
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Usage

MoSysData Transmitter

The DataTransmitter is a component that you can attach to any actor in your Unreal project, enabling it to transmit tracking data through UDP. This can be used by following these steps:

- Drag and drop an actor to the scene (e.g. CameraActor)
- Add the "MoSysDataTransmitter" component to the CameraActor
- Click on the added "MoSysDataTransmitter" component, then edit the "IP Address" and the "Port" number to wherever you want to transmit data (e.g . IP Address 192.168.0.34, Port:8001)
- Ensure the projects Timecode Provider's framerate is the same as the rate you want to send at (engine framerate)


- If all previous steps are followed correctly, you will be able to see tracking data on the UDP port once you hit the "Play" button.

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MoSys cameras

MoSysCameraCG and MoSysCameraNDisplay

Tracked camera examples now placeable from Place Actor panel

- MoSysCameraCG is a tracked CineCamera
- MoSysCameraNDisplay provides the tracking integration for nDisplay plugin
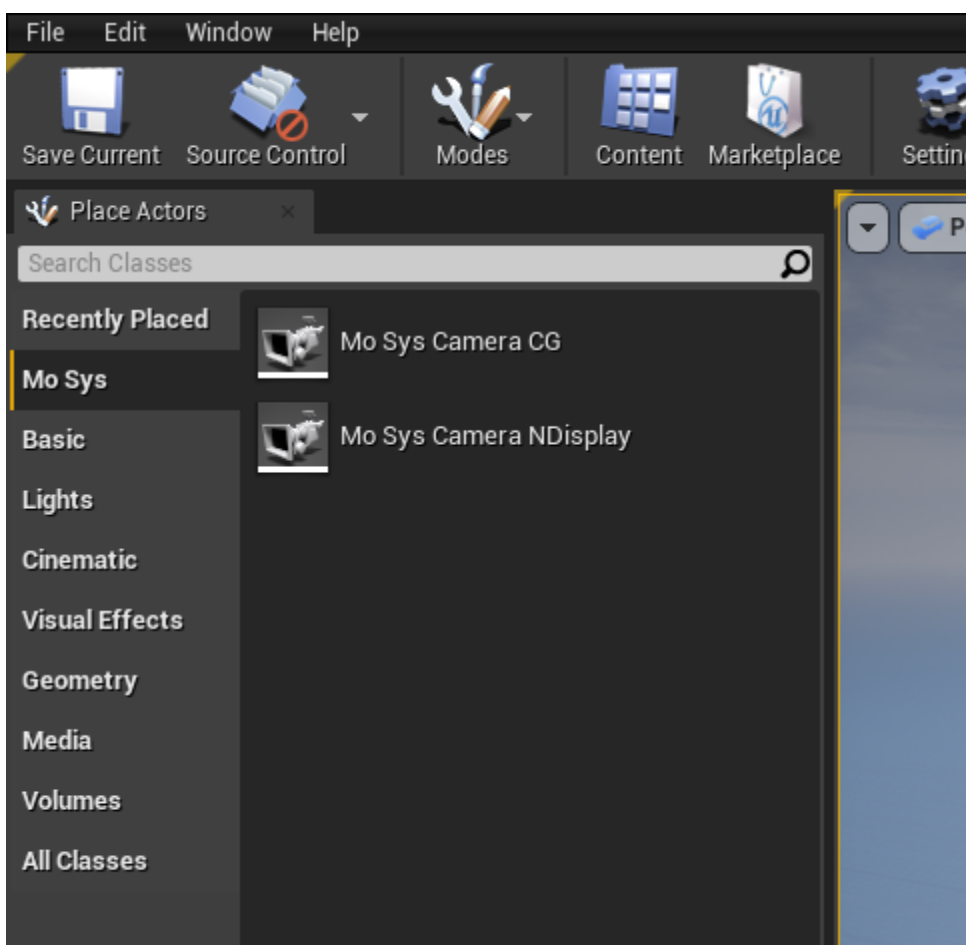
MoSysCameraNDisplay

Mo-Sys nDisplay integration (in-camera VFX)

The camera enables the usage of "In-camera VFX" (LED screen) pipeline using Unreal's official template.

- To setup a project follow the instructions on Unreal Engine nDisplay quick start guide:
https://docs.unrealengine.com/en-US/WorkingWithMedia/InCameraVFX/InCameraVFXQuickStart/index.html

- You can find a sample nDisplay template when starting the engine under "Film, television and Live Events" -> "InCameraVFX"
- Enable MoSys VP Free plugin, set up and save MoSys Live Link preset (pages 1-3)
- Place *MoSysCameraNDisplay* on the level
- Select *MoSysCameraNDisplay* on nDisplayRootActor -> ICVFXCamera(component) -> CineCameraActor (I*mg. 2* next page)
- Remove the existing CineCameraActor
- Specify the saved MoSys Live Link preset on the *MoSysCameraNDisplay* object (I*mg. 1* next page). You can alternatively specify the livelink preset in Project Settings. It will override the setting on the MoSysCameraNDisplay.
- Select the LiveLink subject on MoSysLiveLink component (Under *MoSysCameraNDisplay*)

Finally, if running alongside the editor, change the port (image below) on MoSys Live Link to free up the port for nDisplay Launcher (don't save the preset after the change). For nDisplay cluster to work it is essential to send tracking to nDisplay master computer! (*img. 3*)
You can optionally designate another StarTracker IP endpoint to send data to editor's port, to see the camera movement there.
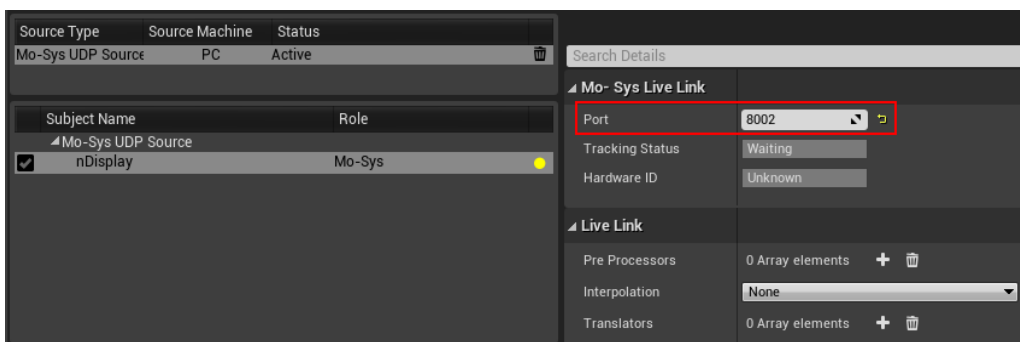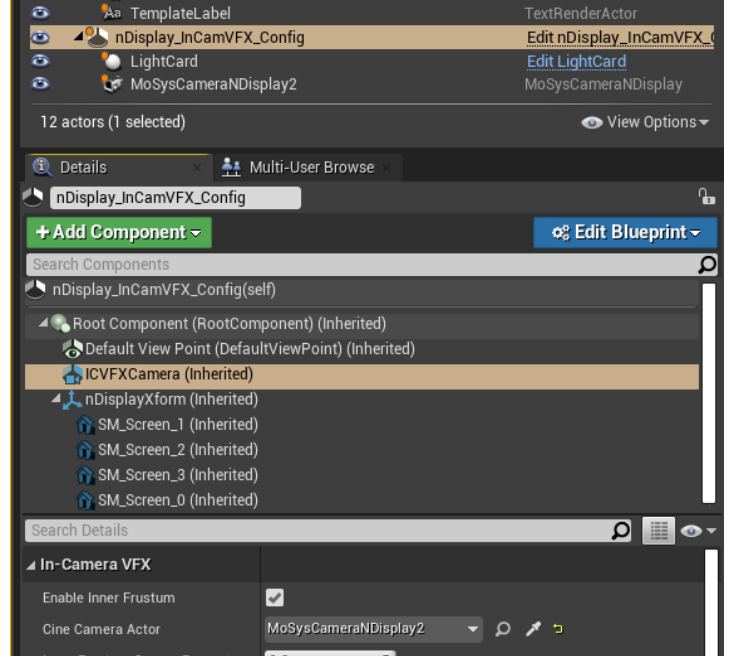

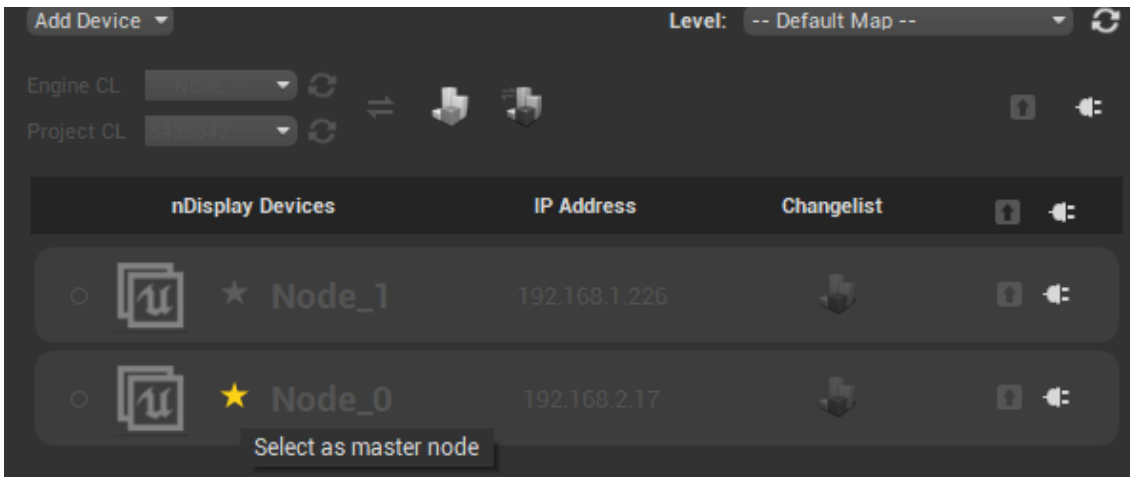Live Link after changing the port to let the tracking come to the launched game

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MoSysCameraNDisplay
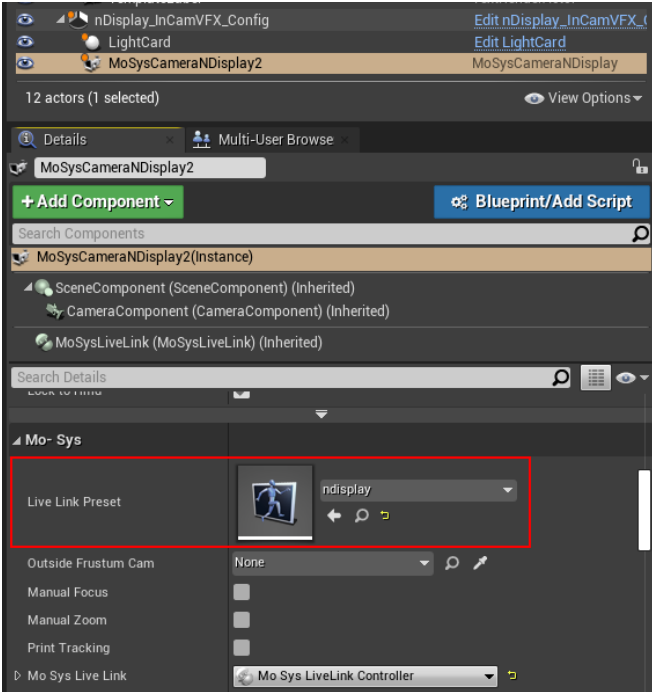
Img. 1 Setting the default preset


Img. 2 Select MoSysCameraNDisplay

Img. 3 nDisplay master in Switchboard plugin panel

MoSys MoCap

MoSys MoCap

"Mo Sys Mo Cap Magnet" is an actor used for correcting the drift of the Motion Capture Suit using the tracking data from the StarTracker. The following steps show how to use it.

- Drag and drop the "MoSysMoCapMagnet" to the scene.
- Click on the "MoSysLiveLinkComponentController" of the "MoSysMoCapMagnet", select the subject representation to match your Subject (e.g "StarTracker_1")
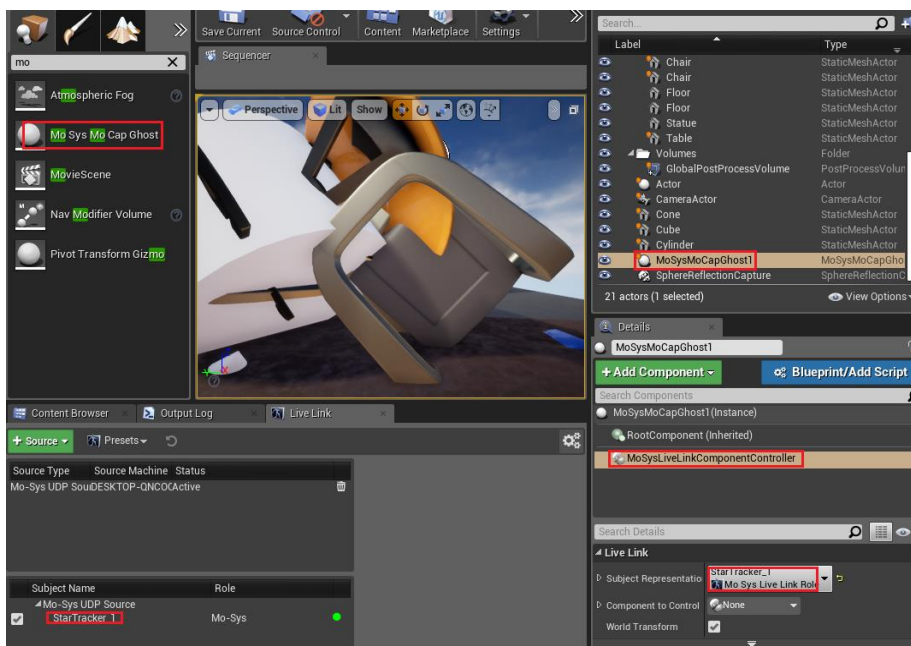
- Set the "Mo Cap Actor" of the "MoSysMoCapMagnet" to the actor with the MoCap tag (e.g. Cube) and adjust the correction ratio as desired.
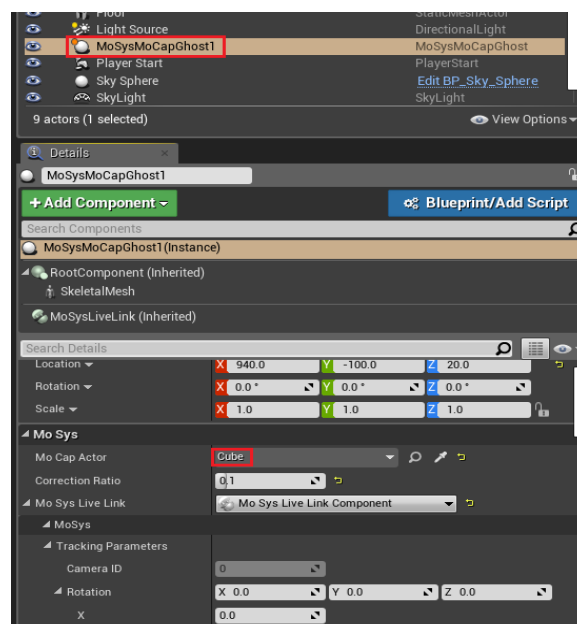
Licence

The Licence will enable you to access the additional features of:

- Radio tracker lite, or "TrackerLite"
- SDI Audio Gateway demodulation, or "SDI Audio Demodulation", enabling the demodulation of tracking data from SDI audio.

The Licence will enable you to access the additional features of:

- Purchasing the Mo-Sys virtual production plugin.
- Purchasing a key from Mo-Sys.

For more information, contact support@mo-sys.com